# CIMPA School at Makere University
# Galois representations and the LMFDB

*Galois representations and Sato-Tate*

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# Group photo

1. **Galois representations of number fields**

2. **Galois representations of elliptic curves**
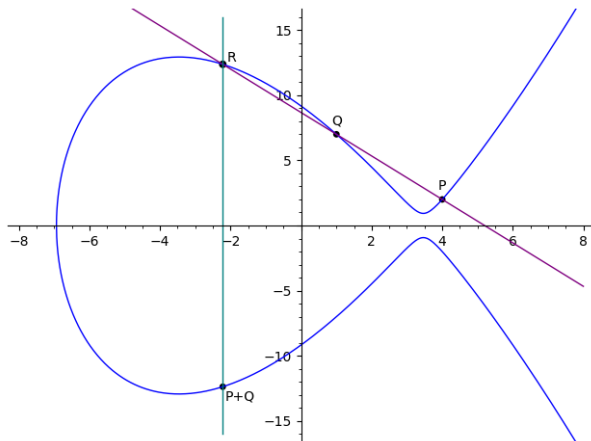
# Character theory of number fields

Here we show some examples of explicit character theory for Artin representations of number fields.

# Character theory of elliptic curves

Here we show some examples of explicit character theory of Galois representations of elliptic curves.

# Elliptic curves

An elliptic curve $E: y^2 = x^3 + ax + b$ over $\mathbb{Q}$ is a plane curve:



with a point $O$ at infinity, whose set $E(\mathbb{Q})$ of solutions $(x, y)$ over $\mathbb{Q}$ form a group (such that colinear points $P$, $Q$ and $R$ sum to $O$).

# The End

Thank you for your attention!